

What is claimed is:

1. A semiconductor device having a semiconductor chip mounted over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate,

wherein over the stud bump, another stud bump is stacked to form a multistage stud bump structure.

2. A semiconductor device having a semiconductor chip mounted over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate,

wherein a stress between the semiconductor chip and the substrate is relaxed by thinning the adhesive layer.

3. A semiconductor device according to Claim 2, wherein a solder resist covering the interconnect of the substrate is omitted.

4. A semiconductor device having a semiconductor chip mounted over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate,

wherein an interconnect formation surface at the end portion of the substrate is covered with the adhesive layer.

5. A semiconductor device according to Claim 4, wherein the substrate is a flexible tape substrate.

6. A semiconductor device according to Claim 4, wherein the adhesive layer is a thermosetting adhesive.

7. A semiconductor device having a semiconductor chip mounted over a substrate in which an interconnect is formed, by using an adhesive layer to connect a stud bump of the semiconductor chip to one end of the interconnect and an external terminal of the semiconductor device to the other end of the interconnect,

wherein a common interconnect is disposed along the periphery of the substrate and the number of the stud bump to be connected to the common interconnect is greater than that of the external terminal to be connected to the common interconnect.

8. A semiconductor device having a semiconductor chip mounted over a substrate in which an interconnect is formed, by using an adhesive layer to connect a stud bump of the semiconductor chip to one end of the interconnect and an external terminal of the semiconductor device to the other end of the interconnect,

wherein a bump electrode which will be an external terminal is formed, via a pad, at the other end of the interconnect and the pad is formed to have sufficient thickness.

9. A semiconductor device according to Claim 8, wherein the pad is formed to have a substantially equal thickness to that of a base of the substrate.

10. A manufacturing method of a semiconductor device comprising a step of mounting a semiconductor chip over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate, further comprising a step of:

using a thermosetting resin as the adhesive layer and adhering the semiconductor chip and the substrate by contact bonding under heat while having the substrate placed over a rigid heat insulating plate.

11. A manufacturing method of a semiconductor device according to Claim 10, wherein the rigid heat insulating plate is glass or ceramic.

12. A manufacturing method of a semiconductor device comprising a step of mounting a semiconductor chip over a substrate in which an interconnect is formed, by using an adhesive layer to connect a stud bump of the semiconductor chip to one end of the interconnect and an external terminal of the semiconductor device to the other end of the interconnect, further comprising a step of:

forming a common interconnect along the outer periphery of the substrate by electroless plating so that

the number of the stud bump connected to the common interconnect is greater than that of the external terminal connected to the common interconnect.

13. A manufacturing method of a semiconductor device comprising a step of mounting a semiconductor chip over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate, further comprising a step of:

adhering an adhesive layer, which is integrated as a film, to each block formed of a plurality of the substrates corresponding to a plurality of the semiconductor devices.

14. A manufacturing method of a semiconductor device comprising a step of mounting a semiconductor chip over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate, further comprising the steps of:

adhering an adhesive layer, which is integrated as a film, to each block formed of a plurality of the substrates corresponding to a plurality of the semiconductor devices;
and

conducting contact bonding under heat for each block to continuously form an adhesive layer corresponding to the plurality of the semiconductor devices.

15. A manufacturing method of a semiconductor device comprising a step of mounting a semiconductor chip over a substrate in which an interconnect is formed, by using an adhesive layer to permit contact conduction between a stud bump of the semiconductor chip and an interconnect of a tape substrate, further comprising the steps of:

adhering an adhesive layer, which is integrated as a film, to each block formed of a plurality of the substrates corresponding to a plurality of the semiconductor devices;

conducting contact bonding under heat for each block to continuously form an adhesive layer corresponding to the plurality of the semiconductor devices; and

cutting the plurality of the substrates by dicing into each one without separating the substrate from the adhesive layer.